

ATTACHMENT 5. WORK PLAN

Carpinteria Valley Water District Carpinteria Groundwater Basin Sentinel Well Project

The proposed CGB Sentinel Well Project would consist of the drilling and construction of nested monitoring wells in the western portion of Storage Unit No. 1 of the CGB. The work tasks necessary to complete the project in accordance with the LGA Grant Agreement have been identified and are described in this work plan.

TASK 1. PROJECT ADMINISTRATION

The initial project administration task includes assistance with the establishment of the grant agreement and contracts for the performance of the work. The task will also include invoicing, budget tracking, and other efforts related to complying with the grant agreement throughout the course of the project. Project coordination will also be accommodated in the project administration task. One of the major elements of project coordination includes finalization of the draft agreement (attached) with the property owners for the well location.

TASK 2. PERMITTING

There are various permitting requirements associated with the project, including: CEQA; Coastal Development Permitting (CDP); NPDES permitting for project discharges (well development and well testing), and Well Construction Permitting with the local authority. The District will take the lead on CEQA and CDP permitting, with assistance from the District's Consultant. It is anticipated at this time that the project may be categorically exempt from CEQA due to the nature of the work to be performed and the intended use of the monitoring well facilities. The District will complete the filings requisite for the categorical exemption, including the project description and the CEQA Worksheet for Categorical Exemptions. The District will also take the lead on securing a CDP for the project, with the assistance of the District's Consultant.

The District's Consultant will take the lead on the NPDES permitting, and permitting for monitoring well construction. The Consultant will prepare compliance documents for NPDES and well construction (pursuant to the MRP for the NPDES permit, and Well Completion Report filings for well construction) and the District will review and submit the permit compliance documents to the respective agencies.

TASK 3. MONITORING WELL PLANS AND SPECIFICATIONS

The District's Consultant will prepare Plans and Specifications for the Drilling and Well Construction. The Plans and Specifications will be a key element for project QA/QC, and will be incorporated into the contract between the District's Consultant and the Drilling Contractor.

The Plans and Specifications will include:

- Logistical Requirements (equipment set up, water supply, cuttings and fluid handling, cuttings disposal, and site clean-up).

- Work Hour Restrictions (daily schedules, weekly schedules)
- Drilling Methods and Materials (including bit sizes, drilling fluids and drilling fluids properties, etc.)
- Geophysical Logging
- Well Casing Details (materials, wall thickness, diameters, screen intervals, depths)
- Gravel Pack and Annular Seals (material types and annular materials)
- Well Development (methods and performance monitoring to determine when development can be considered to be complete)
- Water Quality Sampling
- Site Cleanup and Demobilization
- Time of Performance.

The Plans and Specifications will also include California Labor Code requirements applicable to the project and any other special requirements related to project permits and permit compliance. A bid sheet on which the Contractor can provide unit costs for the various work items will also be included.

TASK 4. DRILLING AND WELL CONSTRUCTION

Task 4 includes all field related project elements, including: field activities coordination; Contractor mobilization and set-up; pilot hole drilling; geophysical logging; well construction; well development; water quality sampling; site clean-up, and Contractor de-mobilization. The District's Consultant will assist with the coordination of field related activities, and will supervise field operations throughout the project.

The pilot hole will be drilled to a depth of 1000 feet. It is estimated that this depth will extend below the base of the "C" aquifer. Cuttings samples will be collected and logged by a California Professional Geologist, and upon completion of the pilot drilling, and geophysical log will be recorded. The cuttings log and geophysical logs will be evaluated by the District, the Consultant, and other members of the Technical Advisory Committee, and the final well casing schedule will be developed. Based on available information and cross-section projections, it is estimated that the 'A', 'B', and 'C' aquifers will occur, and will be screened, between the depths of 125 to 175 feet, 550 to 625 feet, and 800 to 900 feet, respectively.

The pilot bore will be reamed and the separate casing strings installed. The District's Consultant will supervise well construction, and verify the satisfactory placement of casings, screens, gravel pack, and annular seals. The sanitary surface seal will be the final stage of monitoring well construction and will be witnessed by the appropriate individual at the permitting agency.

Well development will be performed following well construction. Each monitoring well will be fully developed until the water produced is free of solids and turbidity, and field water quality parameters have stabilized. Once water quality parameters are considered to be stable based on field measurements by the District's Consultant, water quality samples will be collected and submitted to a State-Certified laboratory for general mineral analysis.

The final well enclosure will be traffic rated, water tight, and lock-secured, and will be installed as a final stage of field operations. The Contractor will then clean the site and demobilize all equipment and materials.

TASK 5. TECHNICAL ADVISORY COMMITTEE MEETINGS

The Technical Advisory Committee (TAC) will be an important component of the project QA/QC. Two TAC meetings are planned to occur at important project milestones. The first meeting will occur during the planning stages of the project and at the onset of the preparation of the Plans and Specifications for well construction. Available hydrogeologic materials will be compiled and discussed, and pertinent data will be incorporated into the plans.

The second TAC meeting will take place after completion of the geophysical log to review the information acquired through the drilling of the pilot hole and develop the final well design.

TASK 6. QUARTERLY REPORTING

Quarterly reports will be required per the format and requirements established in the grant agreement. The quarterly reports are intended to provide information related to project status, summary of completed tasks, pertinent issues related to the project, planned activities, budget status, and project schedule updates. Consistent with the project schedule developed for the CGB Sentinel Well Project, three quarterly reports are tentatively planned.

TASK 7. FINAL REPORT

A final report will be prepared as the final task of the project. The final report will documents the work performed, and will contain all information and data generated through the project, including: permitting documentation; lithologic and geophysical logs; as-built drawings for monitoring well construction; documentation of materials used for well construction; permit compliance documentation; and water quality analytical reports. The final report will also include photographs taken during the project showing project operations and well construction materials.